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**LITHIUM SECONDARY BATTERY (11-067266**  
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**International Class:**

- H01M-010/40

**Abstract:**

**PROBLEM TO BE SOLVED:** To provide an electrolyte for enhancing cycle characteristics, electric capacity of a battery, particularly battery characteristics at a low temperature by including propylene carbonate, a chain carbonate, and vinylene carbonate in a nonaqueous solvent. **SOLUTION:** The content of propylene carbonate(PC) in a nonaqueous solvent is limited to 10 wt.% or more but 60 wt.% or less, that of chain carbonate is limited to 30 wt.% or more but 80 wt.% or less, and that of vinylene carbonate (VC) is limited to 0.01 wt.% or more but 10 wt.% or less. If the content of PC is excessively small, the dielectric constant of an electrolyte is decreased, if it is excessively large, the viscosity of the electrolyte is increased, and in either case, electric conductivity and electric capacity are decreased. As the chain carbonate, for example, dimethyl carbonate is listed. If its content is excessively small or large, disadvantage is similar to PC. If the content of VC is excessively small, the decomposition of PC occurs, and if it is excessively large, battery characteristics at low temperature are decreased. **COPYRIGHT: (C)1999,JPO**

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